

## To the Editor

I would like to initiate a dialog between the mass spectrometry user community and the instrument manufacturers on what I believe is a significant problem. Over the past 30 years I have purchased 14 mass spectrometers; and, until recently, it was a given that a mass spectrometer came with hardware documentation. Although the quality and quantity varied, the documentation included, at the least, circuit diagrams for the electronics. We have now entered an era where such documentation is the exception rather than the rule. This lack of documentation is a major problem for laboratories which must maintain instruments without the benefit of vendor service contracts. It also contributes to the increasing tendency toward use of mass spectrometry as a black box from which data flows.

One cannot argue that much of today's instrumentation is intentionally designed to be appliance type hardware for the biochemistry laboratory. For the laboratory which needs only to apply the technology and is able to rely on vendor service, this works fine. For the laboratory which wants to (or by necessity must) provide its own instrument support, and for the laboratory which trains mass spectrometrists, there is need for more documentation, even for appliance type instruments, than is currently provided.

Why do vendors no longer provide hardware documentation? I assumed the reason was to protect trade secrets. An upper executive at one company assures me that this is not the reason, but rather that the circuitry is too complex for even the service engineers to understand; and, further, that their goal is to render service unnecessary rather than facilitate service. While the latter is a laudable goal, we aren't there yet; and I cannot accept the premise that the circuitry is too complex for schematics to be of any use. I suspect then that another reason must be cost. Although one would expect that the prices of modern instruments should be sufficient to cover the costs of documentation, I believe many users would be willing to pay a reasonable additional cost for it. If enough customers expressed a need for more documentation, I believe the manufacturers would be compelled to provide it.

It would be of interest to hear if others are concerned about the lack of hardware documentation with current instruments, and how other manufacturers respond to the question of why they no longer provide this documentation. I hope that this letter will stimulate further discussion of the issue.

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